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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/590,273	01/11/2007	Jules-Joseph Van Schaftingen	294659US0PCT	5961

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OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, L.L.P.  
1940 DUKE STREET  
ALEXANDRIA, VA 22314

EXAMINER
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AUGHENBAUGH, WALTER

ART UNIT	PAPER NUMBER
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1794

NOTIFICATION DATE	DELIVERY MODE
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03/17/2010

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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<b>Office Action Summary</b>	<b>Application No.</b> 10/590,273	<b>Applicant(s)</b> VAN SCHAFTINGEN ET AL.	
	<b>Examiner</b> WALTER B. AUGHENBAUGH	<b>Art Unit</b> 1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 06 November 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 15-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 15-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>8/22/06</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election of Group II in the reply filed on November 6, 2009 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 15 and 17-21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In regard to claim 15, that which Applicant intends to recite by "by extricating a base plastic layer in the dispersed form nodules having a diameter of..." because it is unclear what "extricating" is intended to mean within the context of the claim language, and it is unclear what is being extricated (the base plastic layer or the nodules). To extricate is to remove. It is not clear that (and unlikely that) Applicant intends to recite that either the base plastic layer or the nodules are removed to form the "base plastic layer or a multilayer comprising of at least one layer". Clarification is requested.

In further regard to claim 15, it is unclear what Applicant intends the structural relationship between the "base barrier" and the "base plastic" to be. The claim recites that they are incompatible, but are they present in the same layer, or do they make up different layers (or

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either?)? It is also unclear if Applicant intends the either of the “base barrier” and “base plastic” to be the material of the nodules, or if the nodules are of a material that is distinct from the “base barrier” and “base plastic”. Clarification is requested. Please amend the claim so that the structural relationship between the various recited components is clear (how are the various components manipulated during the process of forming the “base plastic layer or a multilayer comprising of at least one layer”? For example, what is blended with what? What, if anything is formed as a separate layer? etc.

Claim 17 recites the limitation "layer B" in line 2. There is insufficient antecedent basis for this limitation in the claim.

In further regard to claim 17, does Applicant intend to recite that “layer B comprises an inner layer of the hollow body” (that layer B itself includes an inner layer [that layer B has at least two layers]) or that layer B is an inner layer?

Claim 18 recites the limitation "the barrier plastic" in line 2. There is insufficient antecedent basis for this limitation in the claim. Claims 15 and 17 do not require that the “base barrier” is a plastic.

In regard to claim 19, the language in line 2 may cause some confusion in interpreting the claim. The language appears to identify the second base plastic layer as being in “dispersed form”. It is also unclear from the language whether or not the nodules are present in the second base plastic layer. The structure recited by “with a barrier plastic” cannot be ascertained. As stated above in regard to claim 15, please amend the claim so that the structural relationship between the various recited components is clear (how are the various components manipulated during the process of forming the “base plastic layer or a multilayer comprising of at least one

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layer” that comprises a second base plastic layer? For example, what is blended with what?

What, if anything is formed as a separate layer? etc.

Claim 20 recites the limitation "layer C" in line 1. There is insufficient antecedent basis for this limitation in the claim.

In further regard to claim 20, the structure (if any) intended to be recited by the recitation “is an intermediate of the structure” cannot be ascertained. An intermediate during the process of forming the article? An interior layer (as opposed to “exterior”; see language of claim 16)? Something else?

Claim 21 recites the limitation "layer B" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim 21 recites the limitation "layer C" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim 21 recites the limitation "the barrier plastic" in line 2. There is insufficient antecedent basis for this limitation in the claim. Claims 15 and 17 do not require that the “base barrier” is a plastic.

### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 15-17 and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Takado et al. (USPN 5,384,172).

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In regard to claim 15, Takado et al. teach a process for the manufacture of a multilayer article comprising a layer comprising polyamide particles dispersed in high density polyethylene (HDPE, col. 17, lines 13-22). The polyamide particles correspond to the claimed nodules. Takado et al. teaches that the particles have an average particle size of 1 micron or less (col. 11, lines 3-6). The polyamide of the polyamide particles corresponds to the claimed "base barrier". The polyamide is incompatible with the base plastic (HDPE) because the polyamide does not blend homogeneously with the HDPE (instead it remains in particle form within the HDPE).

In regard to claim 16, Takado et al. teach that the nodules are present in an external layer (layers 1 are the HDPE layers) (col. 6, lines 58-68 and Fig. 1).

In regard to claim 17, Takado et al. teach that the multilayer structure is a hollow body (fuel tank), and that the nodules are present in an inner layer (layers 1 are the HDPE layers) (col. 6, lines 58-68 and Fig. 1).

In regard to claim 19, Takado et al. teach that the nodules are present in two or more layers of the multilayered structure (therefore, that there is a second base plastic layer) (layers 1 are the HDPE layers) (col. 6, lines 58-68 and Fig. 1).

### ***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
  2. Ascertaining the differences between the prior art and the claims at issue.
  3. Resolving the level of ordinary skill in the pertinent art.
  4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
7. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takado et al. (USPN 5,384,172).

In regard to claim 21, the recitation regarding the barrier plastic in layer C cannot be treated on its merits because layer C is not recited as a component in any of the claims upon which claim 21 depends.

In regard to the recitation regarding layer B, while Takado et al. does not teach that the amount of barrier plastic in the layer B is less than 1% by weight, since the polyamide is a barrier material (see, for example, col. 7, lines 1-16), it would have been obvious to one of ordinary skill in the art at the time the invention was made to have varied the amount of barrier material in the layer B in order to achieve the desired degree of barrier capability, depending on the particular desired end result, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art in the absence of unexpected results. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). MPEP 2144.05 II.B.

8. Claims 18 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takado et al. (USPN 5,384,172) in view of Hock et al. (USPN 6,399,170).

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Takado et al. teach the process of forming the article as discussed above in regard to claim 17.

Takado et al. teach that the article is a fuel tank (col. 6, lines 58-68 and Fig. 1).

Takado et al. fails to teach that the material of the barrier particles is EVOH.

Hock et al., however, disclose that EVOH is known as a barrier material for use in particle form, where the EVOH particles are dispersed throughout a carrier material of a polymeric layer (col. 1, line 30-49). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used EVOH as the material of the barrier particles of Takado et al. since EVOH is known as a barrier material for use in particle form, where the EVOH particles are dispersed throughout a carrier material of a polymeric layer, as taught by Hock et al.

Claim 20 cannot be treated on its merits because layer C is not recited as a component in any of the claims upon which claim 20 depends. Also note the basis for rejection of claim 20 under 35 U.S.C. 112, second paragraph, regarding the recitation “is an intermediate of the structure” made of record above.

### ***Conclusion***

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Walter B. Aughenbaugh whose telephone number is (571) 272-1488. The examiner can normally be reached on Monday-Thursday from 9:00am to 7:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye, can be reached on (571) 272-3186. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Walter B Aughenbaugh /

Examiner, Art Unit 1794

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